

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office **3 - JUL 1947**

Date of writing Report 16th May, 1947 When handed in at Local Office 27th May, 1947 Port of Baltimore, Maryland  
 No. in Survey held at Baltimore, Maryland Date, First Survey March 4th, 1947 Last Survey March 20th, 1947  
 Reg. Book. 71601 on the S.S. "DAULTON MANN" (Number of Visits 3)  
 Tons { Gross 7176  
 Net 4380  
 Built at Richmond, California By whom built Perm. Metals Corp. Yard No. - When built 1944  
 Owners Scindia Steam Navigation Company Port belonging to Bombay  
 Electric Light Installation fitted by Permanente Metals Corporation Contract No. - When fitted 1944  
 Is the Vessel fitted for carrying Petroleum in bulk No

**System of Distribution** Two wire - Direct Current  
**Pressure of supply for Lighting** 120 volts, **Heating** - volts, **Power** 120 volts,  
**Direct or Alternating Current, Lighting** Direct **Power** Direct  
 If alternating current system, state frequency of periods per second -  
 Has the **Automatic Governor** been tested and found efficient when the whole load is suddenly thrown on or off Yes  
**Generators**, do they comply with the requirements regarding temperature rise Yes, are they compound wound Yes  
 are they over compounded 5 per cent. No, if not compound wound state distance between each generator -  
 Where more than one generator is fitted are they arranged to run in parallel Yes, is an adjustable regulating resistance fitted in series with each shunt field Yes  
 Have certificates of test results for machines under 100 kw. been submitted and approved - Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing -  
 Are all terminals accessible, clearly marked, and furnished with sockets Yes, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes  
**Position of Generators** Generator Flat S.S. Engine Room after end, is the ventilation in way of the generators satisfactory Yes are they clear of all inflammable material Yes if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators - and -, are the generators protected from mechanical injury and damage from water, steam or oil Yes, are their axes of rotation fore and aft Yes  
**Earthing**, are the bedplates and frames of the generating plant efficiently earthed Yes are the prime movers and their respective generators in metallic contact Yes **Main Switch Boards**, where placed Generator Flat Engine Room S.S. aft  
 If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard -  
**Switchboards**, are they placed in accessible positions, free from inflammable gases and acid fumes Yes, are they protected from mechanical injury and damage from water, steam or oil Yes, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards - and -, are they constructed wholly of durable, non-ignitable non-absorbent materials Yes (Ebony asbestos) is all insulation of high dielectric strength and of permanently high insulation resistance Yes, is it of an approved type Yes, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework -, is the non-hygroscopic insulating material of an approved type Yes, and is the frame effectively earthed Yes Are the fittings as per Rule regarding:—spacing or shielding of live parts A.I.E.E. Standards, accessibility of all parts Yes, absence of fuses on back of board Yes, temperature rise of omnibus bars Yes, individual fuses to voltmeter, pilot or earth lamp on same fuses., are moving parts of switches alive in the "off" position No are all screws and nuts securing connections effectively locked Yes are any fuses fitted on the live side of switches No **Main Switchgear**, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches Three pole disconnect switches and centre pole equalizer. Two pole carbon break circuit breaker with over-load protection each blade and under voltage and reverse current protection.  
 Are turbine driven generators fitted with emergency trip switch as per rule - Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material Yes **Instruments** on main switchboard 3 ammeters 3 voltmeters - synchronizing device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equalizer connection Yes  
**Earth Testing**, state what means are provided at the main switchboard for indicating the state of the insulation of the system earth lamps and voltmeter selector switch wired to give ground readings **Switches, Circuit Breakers and Fusible Cut-outs**, do these comply with the requirements of the Rules A.I.E.E. Standards are the fusible cutouts of an approved type A.I.E.E. have the reversed

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current protection devices been tested under working conditions. Yes Joint Boxes, Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule A.I.E.E. Standards To A.I.E.E. Standards

Cables: Single, twin, ~~triple~~ or multicore Yes are the cables insulated and protected as per Tables IV, V, X or XI of the Rules. Yes are the cables insulated otherwise than as per Rule, are they of an approved type. Yes Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 2.96 Volts Cable Sockets, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets. Yes Paper Insulated and Varnished Cambric Insulated Cables.

If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound -, or waterproof insulating tape - Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage. Yes Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit lead covered protected by sheet steel covers in holds.

Support and Protection of Cables, state how the cables are supported and protected Clipped to steel hangers and/or bulkheads

If cables are run in wood casings, are the casings and caps secured by screws -, are the cap screws of brass -, are the cables run in separate grooves -. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII A.I.E.E.

Refrigerated Chambers, are the cables and fittings in accordance with the special requirements Yes

Joints in Cables, state if any, and how made, insulated, and protected Junction boxes.

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed armoured cables state the material of which the bushes are made -

Earthing Connections, state what earthing connections are fitted and their respective sectional areas Cables efficiently grounded.

- are their connections made as per Rule Yes

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule Yes Emergency Supply, state position and method of control of the emergency supply and how the generator is driven -

Navigation Lamps, are these separately wired Yes controlled by separate switch and separate fuses Yes are the fuses double pole Yes are the switches and fuses grouped in a position accessible only to the officers on watch. Yes (In wheelhouse)

has each navigation lamp an automatic indicator as per Rule Yes Secondary Batteries, are they constructed and fitted as per Rule Yes

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight Yes

are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected Yes

Metal Guards, - are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected No

- how are the cables led -

where are the controlling switches situated -

are all fittings suitably ventilated. Yes are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials Yes

Heating and Cooking Appliances, are they constructed and fitted as per Rule - are air heaters constructed and fitted as per Rule -

Searchlight Lamps, No. of One whether fixed or portable fixed are their fittings as per Rule Yes

Are Lamps, other than searchlight lamps, No. of - are their live parts insulated from the frame or case - are their fittings as per Rule -

Motors, are their working parts readily accessible. Yes are the coils self-contained and readily removable for replacement. Yes

are the brushes, brush holders, terminals and lubricating arrangements as per Rule Yes are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material. Yes are they protected from mechanical injury and damage from water, steam or oil. Yes are their axes of rotation fore and aft where possible if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type. drip proof.

- if not of this type, state distance of the combustible material horizontally or vertically above the motors - and -

have machines of over 100 BPH been inspected by the Surveyors during manufacture and testing - Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule A.I.E.E. Lightning Conductors, where lightning conductors are required, are these fitted as per Rule - Ships carrying Oil having a Flash Point less than 150°F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings - are all fuses of the filled cartridge type - are they of an approved type -

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office -

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule Yes

PARTICULARS OF GENERATING PLANT.										
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		Insulated with	HOW PROTECTED
		Kilowatts.	Volts.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.		
MAIN ...	3	20	120	167	400	Reciprocating Steam Engine				
AUXILIARY ...										
EMERGENCY ...										
ROTARY TRANSFORMER										

  

GENERATOR, LIGHTING AND HEATING CONDUCTORS.									
DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED
	No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR ...	1	.1969	37	.082	167	233 ✓	50	Rubber	L.C. & armoured
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER (MOTOR GENERATOR...)									
ENGINE ROOM and BOILER ROOM Lighting (L1)	1	.0521	7	.097	58.36	83 74 ✓	40	"	"
AUXILIARY SWITCHBOARDS									
Boat Dk. Accom. (L7)	1	.0829	19	.074	48.42	184 ✓	190	"	"
Wheelhouse (L8)	1	.020	7	.061	16.0	41 ✓	240	"	"
Bridge Dk. Accom. (L9)	1	.0829	19	.074	48.17	100 ✓	200	"	"
Gyro Compass	1	.013	7	.048	15.0	41 ✓	200	V.C.	"
ACCOMMODATION									
Amidship (L 3)	1	.0829	19	.074	56.87	100 ✓	190	Rubber	"
Amidship (L 4)	1	.0829	19	.074	50.22	100 ✓	150	"	"
After Dk. House (L 6)	1	.0521	7	.097	24.36	83 74 ✓	440	"	"
WIRELESS ... P 7	1	.020	7	.061	22.00	46.5 ✓	290	"	"
SEARCHLIGHT ... (L 10)	1	.008	7	.038	4.16	25.5 ✓	420	"	"
MASTHEAD LIGHT	1	.0032	7	.042	.42	13 ✓	440	"	"
SIDE LIGHTS	1	.0032	7	.024	.42	13 ✓	110	"	"
COMPASS LIGHTS	1	.0032	7	.024	1.67	13 ✓	-	"	"
POOP LIGHTS									
CARGO LIGHTS Fwd. (L 2)	1	.0521	7	.097	24.63	83 74 ✓	410	"	"
Aft LAMPS (L 5)	1	.0521	7	.097	22.91	83 74 ✓	270	"	"
HEATERS									

  

MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED
		No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP ...										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR										
FRESH WATER PUMP	2	1	.0032	7	.024	6.22	13 ✓	100	Rubber	L. C. & armoured
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
Refrigerator	1	1	.0658	19	.066	59.39	134 ✓	200	"	"
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS										

All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

Electrical Engineers.

Date

COMPASSES.

Distance between electric generators or motors and standard compass 26 feet

Distance between electric generators or motors and steering compass 20 feet

The nearest cables to the compasses are as follows:—

A cable carrying 12 Ampères .75 feet from standard compass .75 feet from steering compass.

A cable carrying 1 Ampères 4 feet from standard compass 7 feet from steering compass.

A cable carrying — Ampères — feet from standard compass — feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power Yes

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted Yes

The maximum deviation due to electric currents was found to be Nil degrees on any course in the case of the standard compass, and Nil degrees on any course in the case of the steering compass.

Builder's Signature.

Date

Is this installation a duplicate of a previous case If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)

The electrical installation on board the vessel was fitted to the requirements of the American Bureau of Shipping in 1944 and plans available have been examined and found generally in accordance with the Rules. The materials and workmanship are satisfactory and the installation has been examined under full load, tested as per Rule, and found satisfactory with the exception of the main generator equalizer connections which are below Rule size.

The dimensions on this report have been taken from the U.S.M.C. plans approved by the American Bureau of Shipping and have been checked on board the vessel as far as possible and found correct.

It is the opinion of the undersigned that the electrical installation is eligible to be classed with this Society subject to the main generator equalizer connections being increased to meet the Rule requirements.

Total Capacity of Generators 10 Kilowatts.

The amount of Fee ... £ \$100.00

When applied for, 17th May 1947

Traveling Expenses (if any) £

When received, 19

Surveyor to Lloyd's Register of Shipping.

Committee's Minute NEW YORK JUN 4 1947

Assigned Elec light

Im-5-44—Transfer, Printed in U.S.A. (The Surveys are requested not to write on or below the space for Committee's Minute)



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